

FLIGHT TRAINING FOR VETERANS

PRIVATE PILOTS COURSE
FLIGHT INSTRUCTORS COURSE
COMMERCIAL PILOTS COURSE
MULTI-ENGINE CLASS RATING COURSE
INSTRUMENT REFRESHER COURSE



PREPARED AND APPROVED
BY

MONTANA

STATE AERONAUTICS COMMISSION.

Bulletin No. 2

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ELIZABETH IRELAND, SUPERINTENDENT AGNES B. WIGGENHORN, DEPUTY

STATE OF MONTANA

FRENCHESTARCHON BELVEUNEVELLEN

HELENA, MONTANA

April 3, 1946

Mr. Claude L. Meredith Regional Manager Veterans Administration Fort Harrison, Montana

Dear Sir:

The State Department of Public Instruction, of which I am
Superintendent, has been designated by the Governor as the approving
agency for all institutional training.

With the full knowledge and consent of the Governor, I hereby delegate that portion of my authority which relates to flight training to the State Aeronautics Commission of Montana.

It is definitely understood that allied courses, as taught in high schools, are not to be considered as a part of this delegated authority.

igned O

Elizabeth Ireland

Noted and approved.

Signed Sam C. Ford,
Governor of Montana



VETERANS ADMINISTRATION

Helena Regional Office Fort Harrison, Montana

December 23, 1946

YOUR FILE REFERENCE:

IN REPLY REFER TO:

RVR-6

Montana State Aeronautics Commission Power Block Helena, Montana

Attention: Frank W. Wiley, Director

Gentlemen:

The following is an outline of requirements with respect to flight training for veterans of World War II, under the Servicemen's Readjustment Act of 1944.

- I. The veteran must make application for training to the Veterans Administration on Form 1950, and submit with it a certified or photostatic copy of his discharge or separation from service. If married, he must also submit a certified copy of the Marriage Record in order to draw subsistence pay as a married man.
- II. As a result of this application he will receive a "Certificate of Eligibility and Entitlement, Veterans Administration Form 1953," which will show the period of his entitlement. This Certificate of Eligibility and Entitlement must be signed by the veteran, dated, and surrendered to the operator with whom he intends to train.

The operator must then endorse, date and sign it, and return it to the Veterans Administration, Fort Harrison, Montana.

Operators will be required to furnish the Veterans Administration with a Statement of Acceptance into training for each veteran for each course, showing date of enrollment, name of course, the hours required for each type of instruction, the educational level of the veteran when enrolled, and the charge for completion of the course in which said veteran enrolls.

- III. The veteran will also take a physical examination as required by the C.A.A. A copy of this examination report, photostatic or certified, should be furnished.
- IV. In the event that a veteran applies for subsistence payments along with his flight training, he must complete Veterans Administration Form 1961 entitled, "Estimate of Compensation for Productive Labor."
- V. The veteran must agree to the accelerated consumption of his period of entitlement on account of the cost of the course. A statement must be prepared for his signature somewhat as follows:

"Name: Address:	C#
WITHTI GRB?	 Date:

Where a veteran elects to have a special course of training, consisting of less than 30 weeks duration, he must, in accordance with Circular 119, Section 4, Paragraph 3, sign the necessary statement below.

This is to certify that I have elected to have my period of entitlement charged at an accelerated rate, as provided for in Paragraph 2, Section 15, V.A. Circular 9, 1946.

(Signature of Veteran)

VI. The operator will then:

- A. Date and sign the endorsement on the 1953 Form, entitled, "Certificate of Eligibility and Entitlement."
- B. Prepare a "Statement of Acceptance" of veteran into training.
- C. Forward these two (2) documents, together with the certified or photostatic copy of the veteran's physical examination; the statement signed by the veteran agreeing to the accelerated consumption of his eligibility and, where applicable, the Form 1961, "Estimate of Compensation for Productive Labor", to the Veterans Administration, Fort Harrison, Montana. This means five (5) documents must be forwarded to and received by the Veterans Administration before the veteran can be officially placed in training in all cases where the veteran wishes to receive subsistence.

If the veteran does not receive subsistence, and does not apply for it, then only four (4) documents need be

Montana State Aeronautics Commission; F. W. Wiley; December 23, 1946; RVR-6

- VI. C. (continued)
 forwarded, omitting the Form 1961. The "Statement
 of Acceptance" will be furnished by the Veterans
 Administration, Training and Education Section. This
 "Statement of Acceptance" will show date of enrollment,
 name of course, hours required for each type of instruction, the educational level of the veteran when enrolled,
 and the charge for the completion of the course in which
 the veteran enrolls.
- VII. The operator must be an approved place for training and this approval must issue from the State Aeronautics Commission of Montana under the terms of a delegation of authority to the said Commission, dated April 3, 1946.
- VIII. Until, and unless, such approval has been granted to operator, no payments or subsistence can be paid to any veteran training thereunder, nor can any payments for tuition or other fees or books or supplies be made to such operator.
 - IX. For the purpose of training veterans as outlined above, it will be necessary that each operator enter into a contract with the Veterans Administration.
 - X. Pending the completion of negotiations with respect to such contract a "Memorandum Agreement" should be entered into between the operator and the Veterans Administration in order to initiate the training of individual veterans pending the completion of the formal contract.

By direction of: Allan C. Hanson, Chief, Vocational Rehabilitation and Education Division

Very truly yours.

B. LOWE MCFERRAN

Chief, Training Facilities Section

CERTIFICATE OF APPROVAL

Montana Aeronautics Commission

All Training Standards and Requirements as given in this Bulletin or otherwise required will be complied with by the Operator.

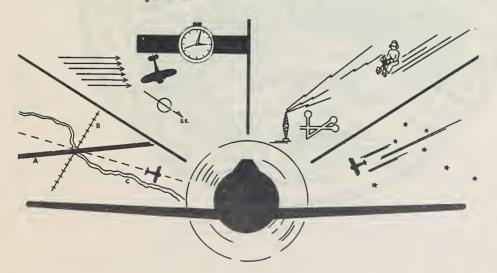
The Operator is authorized to offer the courses listed below and checkmarked to qualified Veterans.

COURSES

	Check /
PRIVATE PILOTS COURSE	
FLIGHT INSTRUCTORS COURSE	
COMMERCIAL PILOTS COURSE	
MULTI-ENGINE CLASS RATING COURSE	
INSTRUMENT REFRESHER COURSE	
Operator	
Airport	
Signed	
Title	
Approved Date	
THE MONTANA AERONAUTICS COMMISSION	
Director	

ATTENTION VETERAN

- You are cautioned not to enroll in courses of training that will not be of direct benefit to you in preparing yourself for earning a livelihood.
- 2) It is to your interest to familiarize yourself with the curriculum of the course in which you are enrolled and with the requirements as given in this Bulletin.
- 3) Your attendance to classes as scheduled will be required and you may be discontinued in training for non-attendance, disinterest, or lack of application.
- 4) In event you feel that the operator is not giving you the full benefit of your entitlement discuss the matter with him and you should find that he is cooperative in correcting any oversite in your training.
- 5) You or the operator may discuss your problems with the Veterans Administration representative at any time and any differences will be adjusted.





--GROUND SCHOOL--

LIST OF TEXT BOOKS TO BE USED IN

PRIVATE PILOTS COURSE

Part 01 c	of CA	\R	Airworthiness Certificates	.05
			Pilot Certificate	.05
			General Operation Rules	.05
			Air Traffic Rules	.05
			Flying School Rating	.05
			Definitions	.05
Bulletin	No.	24	Practical Air Navigation	1.00
			Meteorology for Pilots	.75
Bulletin	MO.	27	Aerodynamics for Pilots	.30
			Pilots' Powerplant Manual	.75
			Pilots' Radio Manual	.25
Bulletin	No.	31	Patter for Elementary Flight	• ພປ
Dullouli	1.00	-	Maneuvers	.15
Bulletin	No.	32	Fundamentals of Elementary	
			Flight Maneuvers	.20
Path of E	righ	t	(Elementary Textbook on Weather	
			for the Flier)	.40
			(Elementary Text on Air Navigation	.60
Bulletin	No.	2	Flight Training for Veterans	.25
			Total	5.25
		FLI	CHT INSTRUCTORS COURSE	
Dullatin	Ma	=	Elight Instructoria Manual	.35
Bulletin	NO.	9	Flight Instructor's Manual	.65
Bulletin	MO.	2	Flight Training for Veterans	.25
Bullecin	NO.	2		• 20
			Total	1.25
		(COMMERCIAL PILOTS COURSE	
Commercia	al Pi	lots Qu	iz Manual	3.50
Log Book-				.75
Bulletin	No.	2	Flight Training for Veterans	.25
				4.50
				2.00
		MULT	I-ENGINE CLASS RATING COURSE	

Note: If unable to obtain the above listed textbooks, substitutions may be made, providing the ones substituted are approved by the Veterans Administration.

No Text Books-----

REQUIREMENTS FOR APPROVAL OF FLIGHT OPERATORS

Authority

The Montana State Aeronautics Commission is authorized to approve GI Flight Training Courses in the State of Montana by special authority of the Department of Public Instruction and the Governor.

Requirements

To receive State approval and authority for participation in GI Flight Training, the Flight Operator will comply with the following requirements:

- (1) The Operator shall have been an established Operator, in the State of Montana, engaged in flight training and operating on an airport approved and designated for commercial operation.
- (2) To qualify as an established operator, the operator shall have trained a minimum of ten (10) students who have received a Private Pilots' License upon completion of a controlled flight course under the supervision of the operator.
- (3) The Operator may establish an operation for participating in GI Flight Training on an approved airport where there is no other Operator engaged in Flight Training, or where an established Operator does not wish to participate in the GI Flight Training Program.
- (4) An Operator who cannot meet the above requirements may be considered for approval if he has established a CAA approved Flying School with a ground and flight curriculum as outlined in this Manual.
- (5) A Flight Operator will be, or will employ, one full time pilot who has five hundred (500) hours certified flying time as a Flight Instructor while holding a commercial license and Flight Instructor's rating, and who has a minimum of one thousand (1,000) hours certified flying time. The duties of this pilot will be to supervise all flight training, in addition to other duties which may be assigned to him.
- (6) Flight Instructors will receive a minimum wage of \$250.00 per month.
- (7) No Flight Instructor will be assigned more than eight students at one time.
- (8) Each Flight Instructor will be given one day off in seven, and will be relieved from all duty on that day.

REQUIREMENTS FOR APPROVAL OF FLIGHT OPERATORS (continued)

- (9) Aircraft used on the Private Pilots' Course, Commercial Pilots' Course, and the Flight Instructor's Course will be powered with engines of 65 horsepower or more.
- (10) The minimum rates upon which compensation for Flight Training is based will be on the basis of \$10.80 per hour for dual time, and \$7.80 per hour for solo time.
- (11) The Operator will have and use, a minimum of two airplanes assigned to GI Training.
- (12) The Operator will have assigned to, and maintain in operating condition, one airplane for every group of eight students, or a fractional number thereof.
- (13) Operators participating in the GI Training Program will charge the same rates for both civilian and GI Training. The course herein listed will be available to any student who desires to take Flight Training.
- (14) All flying time, by Veterans on the Program, will be devoted to maneuvers, as outlined in the curriculum of the courses they are taking.

Hangars

(15) The Operator will have and use, hangar facilities for housing of all aircraft used on the GI Training Program.

Maintenance

(16) The Operator will have adequate servicing facilities and will maintain all aircraft used on the GI.

Training Program in operating condition satisfactory to the CAA.

Supervision

- (17) It is recommended that the Operator be familiar with all Veterans Administration's requirements, including Cir. 61, dated March 14, 1946, and Cir. 119, dated May 17, 1946.
- (18) The Operator will maintain daily ground school attendance records and daily Flight Records, including a copy of this manual which will be used as a log book for each Veteran participating in the Program.



REQUIREMENTS FOR APPROVAL OF FLIGHT OPERATORS (continued)

- (19) The records will be available for inspection at any time by representatives of the Veterans Administration, the CAA, or the Montana State Aeronautics Commission.
- (20) The GI Flight Training Program conducted by the Operator will be subject to periodic inspection by representatives of the Veterans Administration and the State Aeronautics Commission.
- (21) Any Operator who is not complying with all requirements and maintaining a satisfactory standard of training will be suspended from participation in the Program.

Revocation

(22) No Operator, who has had the approval of GI Flight Training revoked by the Montana State Aeronautics Commission, shall apply for, or be granted approval by the Commission, for a period of one year, except as the order for revocation may otherwise provide.

Insurance

(23) Insurance required and available to veterans is based on a rate of ten (10) cents per hour of flying time with a minimum of a three (3.00) dollar premium. Coverage will include five hundred (500.00) dollars for medical and hospital, and three thousand (3,000.00) dollars for death; in event of injury or death while flying or in transportation to and from the Airport and including injury or death from accidents while on the Airport.



REQUIREMENTS FOR GROUND SCHOOL

- (1) The Operator will provide ground school facilities within a practical distance from the Airport.
- (2) The training will be conducted by CAA certificated instructors and one instructor will be responsible for supervision and direction of all ground school training.
- (3) Adequate class room facilities, texts and equipment will be provided to teach the required ground school subjects, as listed in each course given the veteran.
- (4) The curriculum for ground school subjects will be the same as outlined in CAA Manual 50, Sec. 1, Par.B3, and dated April, 1946.

REQUIREMENTS FOR FLIGHT TRAINING

- (1) The veteran will present to the Operator his certificate of eligibility and entitlement, Form 1953, together with evidence of physical examination, as prescribed by the CAA for the course he will participate in.
- (2) The veteran may withdraw from the course, at his own request, by submitting a letter to the Veterans Administration, and a letter to the Flight Operator, requesting that his training be discontinued.
- (3) The Operator must discontinue a veteran from the course, at any time, for repeated failure to report to classes, as scheduled, or for deportment that, in the opinion of the operator, justifies his elimination.

REQUIREMENTS FOR REFRESHER TRAINING

- (1) Pilots who have held CAA Pilots ratings and who are in need of refresher training for reinstatement or renewal of their Pilots License may take any part of the Private Pilots course.
- (2) Flying time and ground school time will be given as provided in the minimum and maximum quoted for refresher training in this Bulletin.
- (3) Costs for Refresher Training will be the same as quoted for ground and flight per hour in the Private Pilots Course.



REQUIREMENTS FOR OPERATIONS

It is suggested that a Day Sheet be posted on a clip board in the Operations Office for each airplane used in Veteran Flight Training. The Day Sheet should have space for entry, by the Flight Instructor or Solo Student, of date, time out, time in, flying time, and name of Pilot with additional information as needed for posting in Flight Ledger or for Aircraft Operation.

- (1) A copy of Bulletin, "Flight Training for Veterans," will be supplied by the operator to each Veteran enrolled for Flight Training. The Bulletin will be used as a logbook for toterans enrolled in the Private Pilots course or Flight Instructors Course and if used as a logbook will have the veterans name written on the front cover and will be kept in a suitable file in the Operations Office accessable to the veteran or the instructor.
- (2) A ledger will be maintained by the operator for Veterans Flight Training. The name of each veteran enrolled for Flight Training and entitlement credit will be posted in the ledger, and under the name of each veteran the following information will be posted currently.

(Flight)

a) The lesson number.

b) The date.

- c) The aircraft serial number.
- d) The instructors initials.
- e) The flying time.
- f) Dual or solo.

g) Charge.

(Ground)

- a) The lesson number.
- b) The date.
- c) Instructors initials.
- d) Class room time.
- e) Subject.
- f) Books & supplies, entering charge for same.
- g) Charge.
- h) Pre-Flight and Post Flight ground instruction will be listed and charge noted on Instructors Course.
- (3) A progress chart will be prepared by the operator for each course and posted in the Operations Office. The progress chart will list the name of the veteran and each lesson will be noted when completed and blocked off on the chart by the Flight Instructor using red for dual and blue for solo.
- (4) A scheduling chart will be prepared by the operator and posted in the Operations Office, listing the days of the week, time of the day the veteran is scheduled to fly and the veterans name designated by a number.



REQUIREMENTS FOR OPERATIONS (Continued)

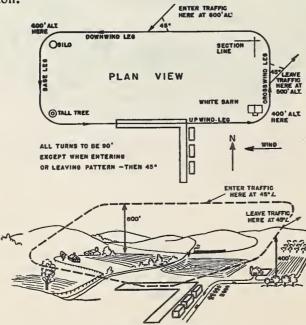
- (5) Each veteran will be assigned to one designated instructor. Flight Training will be given by the Instructor to whom the veteran is assigned except for check rides. Veterans may be reassigned to another instructor if the chief pilot considers the cause justifiable.
- (6) A list.of instructors and the names of veterans assigned to each will be posted in the Operations Office.
- (7) The charts and lists above enumerated will be posted on a bulletin board provided for this purpose and will be of a size, and displayed in a manner, easily discernible.

TRAFFIC PATTERN

- (1) A diagram of the traffic pattern of the field from which training is conducted will be posted on the bulletin board. Attention is invited to the diagram below which may be used as a pattern for drawing the diagram.
- (2) A map or Aerial Picture, will be posted on the bulletin board showing the area adjacent to the field and practice areas will be outlined and designated by number on the map giving boundries of each area and route to the area from the field.
- (3) It is important that all instructors and students be familiar with traffic pattern and practice areas.
- (4) The Civil Aeronautics Board advises that 60% of all accidents in private flying occur in the traffic pattern and 19% in the practice areas.

ACCIDENT REPORT

(5) Any accident involving major damage to Aircraft or injury to Pilot or Veteran will immediately be reported in detail by letter to the Veterans Administration or to the State Aeronautics Commission.



AS THE PILOT SEES IT !

To comply with the requirements of the Veterans Administration's Bulletin No. 119, dated May 17th, 1946, pertaining to Flight Training of Veterans, the following minimums and maximums have been established.

PRIVATE PILOTS' COURSE

A minimum and maximum of 50 hours flight and 36 hours ground time is required for this course.

- (1) The overall time required for this course will be 10 weeks minimum or 12 weeks maximum.
- (2) Students may be scheduled for a minimum of 5 hours or a maximum of 7 hours flight time each week.
- (3) Students may be scheduled for a minimum of 4 hours or a maximum of 10 hours ground course time each week until ground school course is completed.
- (4) No student will be given more than 2 lessons as given in the Flight curriculum in any one day.
- (5) Students participating in this course may be scheduled for flying a minimum of 4 days or a maximum of 6 days per week.

FLIGHT INSTRUCTORS' COURSE

A minimum and maximum of 45 hours flight and 32 hours classroom ground time is required for this course.

- (1) The overall time required for this course will be 6 weeks minimum or 8 weeks maximum.
- (2) Students may be scheduled for a minimum of 5 hours or a maximum of 10 hours flight time in one week.
- (3) Students may be scheduled for a minimum of 4 hours or a maximum of 10 hours ground school classroom time each week until ground school course is completed.
- (4) Students will be given one half flying time in pre-flight and post-flight ground instruction by Flight Instructor immediately before and following flight lesson.
- (5) No student will be given more than 2 hours of flight or 2 hours of ground school classroom time in any one day.

REFRESHER TRAINING

A minimum of 10 hours flight or a maximum of 20 hours flight is authorized for this course. No minimum of ground school is required and a maximum of 36 hours ground school is authorized.

- (1) The overall time required for this course will be 3 weeks minimum or 6 weeks maximum.
- (2) Students may be scheduled for a minimum of 5 hours or a maximum of 10 hours flight time each week.
- (3) Students may be scheduled for a minimum of 4 hours or a maximum of 10 hours ground school time each week until qualified to pass required written tests or the maximum ground school time has been taken.
- (4) No student will be given more than 2 hours of flight or ground school in any one day.
- (5) Minimum and maximum time in ground and flight, within limits above established, will be determined by Ground and Flight Instructor.

PRIVATE PILOTS COURSE

This course qualifies a veteran for private pilots license, which will be issued by the CAA upon completion of the course and passing of the prescribed flight test.

Any veteran carried beyond twelve (12) hours of dual training on this course will be given an additional five (5) hours of dual and solo time, at no additional charge to the Veterans Administration, in event additional time is needed to qualify him for private pilots flight test.

A minimum of fifty (50) hours and a maximum of fifty-five (55) hours of flying time is required on this course.

- 1. 86 hours 12 weeks
 - A. 36 hours of Ground School (Minimum and maximum)
 - B. 50 hours of flying
 - C. l hour Flight Test
- 2. Ground School:

C.A.R. Meteorology		 hours
Aerial Navigation General service of	oimomoft.	 hours
and Aerodynamics Total	aircrait	hours

3. Flying:

Dual instruction	20 hours
Supervised solo	30 hours
Test	1 hour
Total	51 hours

4. Cost:

Dual Flight instruction	20 hours	@ 10.80	\$216.00
Solo Flight instruction	30 hours	@ 7.80	234.00
Flight test	l hour	@ 7.80	7.80
Ground School	36 hours	@ .70	25.20
Insurance(minimum 3.00)	51 hours	@ .10	5.10
Textbooks			5.25
Total			\$493.35



FLIGHT INSTRUCTORS COURSE

The sequence of maneuvers and procedures given in the Flight curriculum of the Private Pilots' Course will be used in this course and maneuvers required in ACA Form 342A for Flight Instructor.

To participate in this course, a veteran must have a Commercial Pilots' License issued by the CAA, or present to the Operator certified records of flying time sufficient to qualify the veteran for a Commercial Pilots' License upon completion of the course. (The CAA requires that a pilot have a minimum of two hundred (200) hours solo flying time or equivalent as outlined in the CAA Regulations to qualify for a Commercial Pilots License).

With the approval of the Operator, veterens taking this course may ride together on solo flights, if CAA requirements are complied with. Both occupents of the airplane will receive credit for half the solo time while flying.

A maximum and minimum of forty-five (45) hours flying time is required for this course.

- 1. 77 hours 8 weeks
 - A. 32 hours of Ground School (Maximum and minimum)
 - B. 45 hours of flying
 - C. 22 Hours Pre-flight and Post-flight by Flight Instructor
- 2. Ground School:

Fundamentals of instructing Analysis and performance of	flying	9 hours
maneuvers C.A.R. Part 20 Teaching Psychology Total		15 hours 3 hours 5 hours 32 hours

3. Flying:

Duel instruction	12 hours
Supervised solo	33 hours
Total	45 hours

4. Cost:

Pre-flight and Post-flight instruc-				
tion	221	hours @	.70	\$ 15.75
Dual instruction	12	hours @	10.80	129.60
Solo instruction	33	hours @	7.80	257.40
Ground School	32	hours @	.70	22.40
Insurance (minimum 3.00)	45	hours @	.10	4.50
Textbooks				1.25
Total				\$ 430.90



Ground School Requirements in "Note"
Par F-Commercial Pilota
Course-apply to this
course.

FLIGHT CURRICULUM FOR THE PRIVATE PILOTS COURSE

OUTLINE OF PRIMARY (PRIVATE PILOT) FLIGHT INSTRUCTION

All instructions to be in accordance with Flight Instructor's Manual C.A.A. Bulletin #5 (revised edition) and the Civil Pilot Training Manual #23.

Primary Pilot Course consisting of a minimum of 20 hours dual and 30 hours solo properly covering all maneuvers prescribed with ground instruction preceeding and following flights being given to the extent of 50% of the flight time (Primary Airplanes.)

1. Preliminary Ground Instruction 1 hour - in addition to the hours of classroom instruction on "Aircraft Operations". Preliminary ground instruction must be given prior to the first flight, consisting of the fellowing:

(a) Familiarization with airplane

Simple explanation of the controls Simple explanation of the instruments (b) (c)

Explanation of throttle Explanation of brakes (d) (0)

- Explanation of fuel system (1) Use of safety belt
- Location of Fire extinguisher Location of first-aid kit

Warnings

1. Propeller

Running engine with empty cockpit 2.

Local traffic rules 3.

(k) Instruction on signals Additional Ground Instruction prior to solo

Starting procedure Swinging propeller (b) (c) Warming up engine

Stopping engine (d)

Line inspection of aircraft

(e) (f) Use of parachutes

STAGE "A" (8 hours minimum dual instruction before solo) Approximate Lesson DUAL

Time (Taxiing) :30 (Effect of controls) (Straight and level) (Turns) Effect of controls

Demonstration (new maneuvers to be demonstrated) Taxiing Effect of controls Straight and level

Taxing Turns
In this lesson all maneuvers indicated will be demonstrated and practiced.

:30 - 1:00 2

Coordination exercises Taxiing Straight and level Turns (Coordination exercises) Taxiing



COURSE____

FLIGHT LOG

STAGE____

TIME TIME	SOLO CREZO S VETERAN TIME TRAINING 1946		
No			
No	PLA		
No	I AIR		
No	TAX		
No	STUDENT WILL TAXI AIRPLANE		
No	× L		
No	CDEN		
No	STI		
TOTAL TIME THIS PAGE	SYMBOLS		
TOTAL STAGE TIME	-GRADE-		
BROUGHT FORWARD	2 EXCELLENT		
TOTAL STAGE TIME	3 VERY SATISFACTORY 4 SATISFACTORY		
TOTAL COURSE TIME	5 POOR		
BROUGHT FORWARD	P PRIVATE		
TOTAL COURSE TIME	R REFRESHER I INSTRUCTOR		
ABOVE INSTRUCTION GIVEN ABOVE INSTRUCTION RECEIVED Signature of Instructor Signature of Student Serial No.			

Check Curriculum Before Flight.
Fill out log at completion of lesson.

COURSE	FLIGHT	LOG		STAGE
TIME SON TIME	E TIME	SOLO TIME S	POR INSTRUCTOR	VETERAN TRAINING 1946
No				AIRPLANE
No				TAXI AIR
No				WILL T
No				STUDENT
No TOTAL TIME				
THIS PAGE TOTAL STAGE TIME BROUGHT FORWARD			1 SU 2 EX	GRADE — PERIOR CELLENT RY SATISFACTORY
TOTAL STAGE TIME TOTAL COURSE TIME BROUGHT FORWARD			5 PO P PR	IVATE
TOTAL COURSE TIME ABOVE INSTRUCTION	GIVEN	ABOVE		FRESHER STRUCTOR I RECEIVED

Check Curriculum Before Flight. Fill out log at completion of lesson.

Signature of Instructor

Signature of Student Serial No.

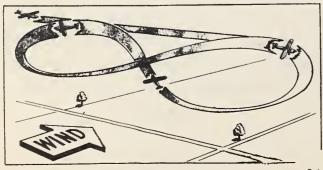
FLIGHT INSTRUCTION

Stage A Continued:			
Approx.	Lesson	Practice	Demonstration
1:00 - 1:30	3	Taxiing Straight and level Turns Coordination exercises (Confidence Maneuvers) (Climbs and turns) (Glides and turns) Taxiing	
1:30 - 2:00	4	Taxiing Climbs and turns Straight and level Coordination exercises (Stalls) (Rectangular course) Glides and turns Taxiing	Stalls Rectangular course
2:00 - 2:30	5	Taxling (Take-offs) Climbs and turns Coordination exercises Stalls Rectangular Course Glides and turns (Approach 90 degrees) (Landings) Taxling	Take-offs Approach 90 degrees Landings
2:30 - 3:00	6	Taxiing Take-offs Climbs and turns Coordination exercises Rectangular Course Stalls (S-Turns) Glides and turns Approach 90 degrees Landings Taxiing	S-Turns
3:00 - 3:30	7	Taxiing Take-offs Climbs and turns S-Turns (Coordination exercise Climbing and gliding Glides and turns Approach 90 degrees Landings Taxiing	Coordination climbing and gliding exercises



FLIGHT INSTRUCTION

Stage A continued Approx.	Lesson	Practice	Demonstration
Time 3:30 - 4:00	8	Taxiing Take-offs Climbs and turns S-Turns (Coordination climbing & Exercises Medium eights Glides and turns (Approach 180 degrees) Landings Taxiing	Medium eights Appraoch (180 degrees) gliding)
4:00 - 4:30	9	Taxiing Take-offs (Emergency landings on Take-offs) Taxiing Take-offs Climb and turns Medium eights Glides and turns Approach 180 degree Landings (Cross-wind take-offs an	
4:30 - 5:00		Taxiing Take-offs Forced landing on take-offs Taxiing Take-offs Climbs and turns Medium eights (Forced landings 90 degr Climbs and turns Glides and turns Approach 180 degrees Landings Taxiing	
5:00 - 5:30	11	Taxiing Take-offs Climbs and turns Emergency landing 90 deg Climbs and turns Medium eights Glides and turns (Emergency landings 180° Appraoch 180 degree Landings Taxiing	Emergency landings 180° grees (minimum altitude-200')



COURSE____

FLIGHT LOG

STAGE____

TIME TIME TIME TIME TO BE TO TRAINING 1946									
No									
No	PLA								
No	AIR								
No	TAX								
No	STUDENT WILL TAXI AIRPLANE								
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Check Curriculum Before Flight.
Fill out log at completion of lesson.

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Check Curriculum Before Flight. Fill out log at completion of lesson.

FLIGHT INSTRUCTION

Stage A Continued Approx.	Lesson	Practice	Demonstration
Time 5:30 - 6:00	12	Taxiing Take-offs Forced landings on Coordination Exercis (Steep turns) Glides and turns Emergency landings side approach at i	ses in climbs (180 degree)
6:00 - 6:30	13	Taxiing Take-offs Coordination exercis Steep turns Stalls and slow flig (Accidental spins - Glides and turns Emergency landing (we min. alt. 200° Approach 180 degrees Landings Taxiing	sht 1 turn) when possible)
6:30 - 7:00	14	Taxiing Take-offs Coordination exercis Steep turns Accidental spins (1 (Normal spins 2 turn Glides and turns Emergency landings min. alt. 200° Side Approach 180 de Landings Taxiing	turn) ns) (when possible)
7:00 - 7:30	15	Taxiing Take-offs Coordination exercis Accidental spins 1 i Normal spins 2 turns Glides and turns Emergency landings v Approach 180 degrees Landings Taxiing	turn when possible (min. alt. 200)
7:30 - 8:00	16	Instruction as neces preparation to solo Note: Additional du will be given	aal time before solo



FLIGHT INSTRUCTION

STAGE B -- 2 hours dual check and 3 hours solo on development of ability in above maneuvers with emergency landings being given on dual periods.

	Approx.	Lesson	Dua1	Solo Practice
В	Time 0 - :15	ı		Taxiing
	Dual 8:00 Solo :15			Take-offs Climbs and turns Glides and turns Side approaches 180 Landings
В	:15 - :30	2	Taxiing Take-offs	
	Dual 8:15 Solo :15		Climbs and turns Coordination exerci Clides and turns Approaches 180 degr Landings Taxiing	
В	:30 - 1:00	3	Emergency landings	(minimum altitude 200') Taxiing
	Dual 8:15 Solo :45			Take-offs Climbs and turns Coordination exercises Glides and turns Side approaches 180° Landings Taxiing
В	1:00 - 1:15	4	Taxiing Take-offs	IUXIIIB
	Dual 8:30 Solo :45		Climbs and turns S-Turns Glides and turns Approaches 180 degr Landings Taxiing	ees (side) (minimum altitude 200°)
В	1:15 - 1:45	5		Taxiing Take-offs
	Dual 8:30 Solo 1:15			Climbs and turns S-Turns Glides and turns Side approaches 1800 Landings Taxiing
В	1:45 - 2:00			TANTING
	Dual 8:45 Solo 1:15	6	Taxiing Take-offs Climbs and turns Medium eights Glides and turns Approaches 180 degr Landings Taxiing Emergency Landings	ees (side) given when possible



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Check Curriculum Before Flight.

Fill out log at completion of lesson.

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FLIGHT INSTRUCTION

Stage B Continued Approx.	FLIGH	I INDIROUTION	
Time	Lesson	Dual	Solo Practice
B 2:00 - 2:30 Dual 8:45 Solo 1:45	7		Taxiing Take-offs Climbs and turns Medium eights Glides and turns Side approaches 180° Landings
B 2:30 - 2:45			
Dual 9:00 Solo 1:45	8	Taxiing Take-offs Climbs and turns Steep turns Glides and turns Side approaches 180° Landings Taxiing Emergency landings (giv	en when possible)
B 2:45 - 3:15	9	•	Taxiing Take-offs
Dual 9:00 Solo 2:15			Climbs and turns Steep turns Glides and turns Side approaches 180° Landings
B 3:15 - 4:00	10		Taxiing Take-offs
Dual 9:00 Solo 3:00			Climbs and turns Steep turns Glides and turns Side approaches 180° Landings Medium eights
B 4:00 - 5:00	11	Taxiing Take-offs	
Dual 10:00 Solo 3:00		Climbs Medium eights Steep turns Stalls Spins (2 turns) Glides Side approaches 180° Landings	n possible) min. alt. 200

STAGE C -4:30 dual and 9:00 solo in developing ability in above maneuvers for solo and precision work with first solo spins. In addition 720 degree power turns, 360 degree approaches, 60 degree eights, spiral approaches, power approaches, power landings finished with a one hour of dual on all maneuvers.



FLIGHT INSTRUCTION

ST	AGE C Continued:	\$ PIGE	II INSTRUCTION
	APPROX. TIME	LESSON	DUAL SOLO PRACTICE
С	0 - :30 Dual 10:30 Solo 3:00	1	Taxiing Take-offs Climbs and turns Stalls Spins Glides and turns Side approaches 180°
С	:30 - 1:00	, 2	Landings Taxling Emergency landings (given when possible) Taxling
	Dual 10:30 Solo 3:30		Take-offs Climbs and turns Stalls Spins Glides & turns Side approaches 180° Landings
C	1:00 - 1:30	3 ,	Taxiing Take-offs
	Dual 10:30 Solo 4:00		Climbs and turns Stalls Spins Glides & turns Side approaches 180° Landings
С	1:30 - 2:00 Dual 11:00 Solo 4:00	4	Taxiing Demonstration of Take-offs 720 power turns Climbs and turns Approaches 360 Stalls & slow flight Spins (720° power turns) Glides & turns (Approaches 360°) Landings
С	2:00 - 2:30 Dual 11:00 Solo 4:30	5	Emergency landings when possible Taxi ing Take-offs Climbs & turns Stalls Spins Glides & turns
			Side approaches 180° Landings
С	2:30 - 3:00 Dual 11:00 Solo 5:00	6	Taxi ing Take-offs Climbs & turns Stalls Spins Glides & turns Approaches 180° - side Landings



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Check Curriculum Before Flight.
Fill out log at completion of lesson.

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Check Curriculum Before Flight.
Fill out log at completion of lesson.

FLIGHT INSTRUCTION

STAGE C CONTINUED

	Approx. Time	LESSON	DUAL	SOLO PRACTICE
С	3:00 - 3:30 Dual 11:00 5:30	7		Taxiing Take-offs Climbs & turns Stalls Spins Glides & turns Side approaches 180° Landings
С	3:30 - 4:00	8	Taxiing	randings
	Dual 11:30 Solo 5:30		Take-offs Climbs & turns 720 Power turns Glides & turns Approaches 360° Landings	
С	4:00 - 5:00	9	Emergency landings when	Taxiing
	Dual 11:30 Solo 6:30			Take-offs Climbs & turns 720 Power turns Glides & turns 360 spot landings
С	5:00 - 5:30 Dual 12:00 Solo 6:30	10	Taxiing Demonstration Take-offs Pylon eights Climbs & turns Spiral Pylon eights 720 Power turns Climbs, glides & turns (Spiral approaches) Landings Approaches 360° Landings Emergency landings when	of s approach landings
С	5:30 - 6:30 Dual 12:00 Solo 7:30	11	Emergency landings when	Taxiing Take-offs Climbs & turns 720 Power turns Glides & turns Approaches 360° Landings
С	6:30 - 7:00 Dual 12:00 Solo 8:00	12		Taxiing Take-offs Climbs & turns Pylon eights Climbs & turns Spiral approaches Landings Taxiing



FLIGHT INSTRUCTION

ST.	AGE C CONTINUED	FLIGHT	INSTRUCTION	
01.	Approx.			
	Time	LESSON	DUAL	SOLO PRACTICE
С	7:00 - 8:00	13		Taxiing Take-offs
	Dual 12:00 Solo 9:00			Climbs & turns Pylon eights
	0.00	7.4		Climbs & turns Spiral approaches Landings
С	8:00 - 8:30	14	Taxiing Demonstration Take-offs Power approach	es
	Dual 12:30 Solo 9:00		Climbs & turns Power la Pylon eights	ndings
			Climbs & turns Spiral approaches	
			Landings Take-offs	
			Climbs & turns	
			(Power approaches) (Power landings)	
			Taxiing Emergency landings when	possible
С	8:30 - 9:30	15		- Taxiing
	Dual 12:30 Solo 10:00			Take-offs Climbs & turns
	5010 10.00			Pylon eights
	4			Climbs & turns Spiral approaches Landings
С	9:30 - 10:30	16	Taxiing Take-offs	
	Dual 13:30 Solo 10:00		Climbs & turns Power approaches	
	10.00		Power landings Taxiing	
С	10:30 - 11:30	17	Emergency landings when	possible Taxiing
	Dual 13:30			Take-offs Climbs & turns
	Solo 11:00			Power approaches Power landings
	33.50	3.0		
С	11:30 - 12:30	18		Taxiing Take-offs
	Dual 13:30 Solo 12:00			Climbs & turns Power approaches
С	12:30 - 13:30	19	Stage maneuvers	Power landings
	Dual 14:30			
	Solo 12:00			



MONTANA AERONAUTICS COMMISSION

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Check Curriculum Before Flight. Fill out log at completion of lesson.

MONTANA AERONAUTICS COMMISSION

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Check Curriculum Before Flight. Fill out log at completion of lesson.

FLICHT INSTRUCTIONS

STAGE D --

5:30 dual and 10:00 hours solo. Additional instruction and solo in forward slips, forced landings, dragging areas, 2 hours dual cross country, 6 hours solo cross country, practice dual and solo. Private Flight Test. Official Private Flight Test.

	Approx. Time	Lesson	Dual Solo
D	0 - :30 Dual 15:00 Solo 12:00	1	Taxiing Take-offs Climbs & turns (Forward slips) Glides & turns Side approaches 180° Slips Landing Taxiing Emergency landings when possible
D	:30 - 1:00 Dual 15:00 Solo 12:30	2	Taxiing Take-offs Climbs & turns Forward slips Approaches Slips Landings
D	1:30 - 2:00 Dual 15:00 Solo 13:00	3	Taxiing Take-offs Climbs & turns Forward slips Approaches Slips Landings
D	2:00 - 3:00 Dual 16:00 Solo 13:00	4	Taxiing Take-offs Climbs & turns Clides & turns (Dragging areas) Approaches 180° (side) Slips Landings Taxiing
D	3:00 - 4:00 Dual 16:00 Solo 14:00	5	Emergency landings when possible Precision landing practice & review
D	4:00 - 5:00 Dual 16:00 Solo 15:00	·6	Precision landing practice & review



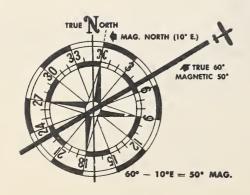
FLIGHT INSTRUCTION

ST.	AGE D CONTINUED Approx. Time	LESSON	DUAL	SOLO
D	5:00 - 7:00	7	Cross-Country	
	Dual 18:00 Sclo 15:00			
D	7:00 - 10:00	8		One cross-country
	Dual 18:00 Solo 18:00			flight of not less than 50 miles with 2 full stop landings at different points on
D	10:00 - 11:00	9	Practice Private flight	the way.
	Dual 19:00 Solo 18:00		test.	
D	11:00 - 14:00	10		One solo cross coun-
	Dual 19:00 21:00			try flight with two intermediate full-stop landings, one leg of which must be 100 miles in length.
D	14:00 - 15:00	11		Practice Private
	Dual 19:00 Solo 22:00			flight test.
D	15:00 - 16:00	12	Practice Private flight test.	
	Dual 20:00 Solo 22:00		06504	

8:00 hours solo practicing DUAL and reviewing maneuvers as 20:00 necessary to pass Private Flight test. This time may be applied during the course on any lesson as needed or as required. SOLO 20:00 22:00 8:00 Total time 20:00 30:00

Private flight test

1:00 by Flight examiner or CAA Inspector.



MONTANA AERONAUTICS COMMISSION

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Check Curriculum Before Flight. Fill out log at completion of lesson.

				Hour
Class	Period	1.	Introduction on Civil Aeronautics Act of 1938. Need for regulation and safety.	1:0
11	ŧŧ	2.	Pilot regulations Certificates, ratings and requirements.	1:0
Ħ	n	3.	Certification of aircraft Transfer of title, registration.	1:0
Ħ	11	4.	Operation and general service of air- craft.	1:0
11	"	5.	Air Traffic rules Contact procedures	1:0
17	п	6.	Flight rules Instrument and traffic patterns.	1:0
11	n	7.	Definitions Aviation terminology and nomenclatures.	1:0
tt	II	8.	Light and signal rules; control zones, control zones of intersection, control airports and danger zones.	1:0
tt	n	9.	Current amendments. Emphasis on local regulations and field rules.	1:0
11	11	10.	Examination and review.	1:0

(Suggested Reading - Civil Aeronautics Bulletin No. 22)

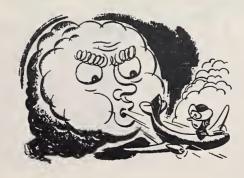
Note: It is recommended that instruction regarding the penalty provisions of the Civil Aeronautics Act of 1938 as amended, be included.



B. Meteorology 10 Hours

				Hours
Class	Period	1.	Motion of the atmosphere;	1:00
11	tr	2.	Factors affecting weather and weather change, and resulting action of the atmosphere;	1:00
11	13	3,	Behavior of storms;	1:00
rs	tt	4.	Measurement of pressure;	1:00
17	tt	5.	Effects of humidity;	1:00
17	11	6.	Cloud formations & their meaning;	1:00
18	11	7.	Precipitation;	1:00
17	11	8.	Elementary weather forecasting. Weather maps, weather sequence reports and their analysis;	1:00
13	11	9.	Practical uses of meteorology in flying; and,	1:00
11	H	10.	Examination and review.	1:00
			Total Hours	10:00

(Suggested Reading - Civil Aeronautics Bulletin No. 25)



G. Aerial Navigation 10 Hours

				Hours
Class	Period	1.	Maps, charts and the earth's surface;	2:00
11	Ħ	2.	Navigational instruments, their types, uses and errors;	1:00
11	11	3.	Navigation methods;	2:00
"	n	4.	Practical navigation problems (contact flying, dead reckoning, drift and triangular course computations, and simple radius of action);	2:00
11	Ħ	5.	Explanations of the use of radio beam in contact flight; and,	2:00
fŧ	88	6.	Examination and review.	1:00
			Total Hours	10:00

(Suggested Reading - Civil Aeronautics Bulletin No. 24)



D. General Service of Aircraft 6 Hours

				Hours	
Class	Period	1.	Items of precaution to be observed in servicing and operating aircraft;)	
11	" .	2.	The purpose and meaning of operations limitations and Aircraft Operation Records;	;	
11	Ħ	3.	Inspections required, their purposes and important items;	;	
11	11	4.	Explanation of minor and major aircraft repairs;	5:00	
11	11	5.	The use of aircraft instruments;)	
27	11	6.	The use and care of parachutes;	:	
11	11	7.	The use of log-books; and,)	
11	11	8.	Examination and review.	: 1:00	
			Total Hours	6:00	

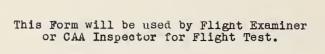
(Suggested Reading - Civil Aeronautics Bulletin No. 23)

Note: (1) The curriculum submitted by the applicant must show the time allotted for teaching each subject and sub-division thereof-

(2) Each student who is not a bona-fide flight student and who passes the required examinations on the foregoing ground instruction curriculum should be given a certificate to this effect.



FLIGHT TEST Form 342A

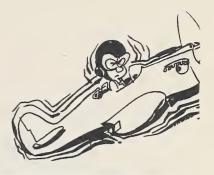




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FLIGHT TEST Form 342A

This Form will be used by Flight Examiner or CAA Inspector for Flight Test.



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PRIVATE PILOT CERTIFICATE GROUND SCHOOL

For the purpose of uniformity the following form is to be used: This is to certify that _____(Name) (Address) has successfully completed the ground instruction required of an applicant for a private pilot certificate. Courses satisfactorily completed: Grade Civil Air Regulations Meteorology Navigation General Service of Aircraft I certify that the above statements are true. (School) By (Signature) (Title) (Date Issued)

FLIGHT TRAINING FOR VETERANS Prepared & Approved by Montana Aeronautics Commission

COMMERCIAL PILOTS COURSE (Supplement A)

VETERAN REQUIREMENTS

- To participate in this course, a veteran must have a current Private Pilots License issued by the CAA, with conventional aircraft rating.
- To participate in this course, a veteran must have a current medical certificate (Commercial Airmen), Form ACA-1004, issued by the CAA.

MINIMUM & MAXIMUM REQUIREMENTS

To comply with the requirements of the Veterans Administration's Bulletin No. 119, dated May 17th, 1946, pertaining to Flight Training of Veterans, the following minimums and maximums have been established.

A minimum and maximum of 211 hours flight and 105 hours ground time is required for this course.

- The overall time required for this course will be 30 weeks minimum or 53 weeks maximum. The average time will be 40 weeks.
- Students may be scheduled for a minimum of 4 hours or a maximum of 21 hours flight time each week.
- Students shall be scheduled for an average flight time of six hours per week.
- 4. Students may be scheduled for a minimum of 4 hours or a maximum of 10 hours ground course time each week until ground school course is completed.
- Students shall be scheduled for an average ground school classroom time of eight hours per week.
- No student will be given more than 2 lessons as given in the Flight curriculum in any one day.
- 7. Minimum and maximum time in ground and flight, within limits above established, will be determined by Ground and Flight Instructor.

CURRICULUM OUTLINE

The sequence, maneuvers and procedure given in the Flight curriculum of the Private Pilots Course and maneuvers required in ACA Form 342-A for Commercial Pilots will be used in this course. Reference is made to Page 36 in Bulletin No. 2, and to the following.

COMMERCIAL PILOTS COURSE Supplement A (Continued)

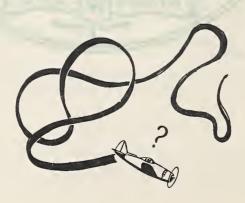
FLIGHT CURRICULUM

The flight curriculum should be arranged so as to give instruction and solo flight practice on all maneuvers necessary to enable a student to demonstrate proficiency to a degree required of a commercial pilot.

Such maneuvers, in addition to those taught and practiced in the Private Pilots course are:

- (1) Emergency maneuvers, such as simulated forced landings and recovery from stalls, entered from both level and steeply banked attitudes.
- (2) Spirals (To include spirals with constant bank and constant airspeed, and also spirals around predetermined object on ground.)
- (3) Crosswind take-offs and landings.
- (4) Lazy eights.
- (5) Chandelles.
- (6) Two turn precision spins. (Recovery started within ten degrees plus or minus of heading on which maneuver is begun.)
- (7) Power approaches and wheel landings.
- (8) Dragging areas.

Veterans will not be scheduled to fly more than one hour on any one lesson except on XC Flights.



COMMERCIAL PILOTS COURSE (Supplement A) (Continued)

The Ground Curriculum given in this course will be the same as the curriculum outlined in CAA Manual 50 "Flight School Rating", dated April 1, 1946. (Reference is made to Page 5, Paragraph 3). See Curriculum Outline under "Ground Curriculum" in this supplement.

With the approval of the operator, veterans taking this course may ride together on solo flights, if CAA requirements are complied with. Each occupant of the airplane will receive credit for the actual time he is sole manipulator of the controls.

A maximum and minimum of two hundred and eleven (211) hours flying time is required for this course.

316 hours - 50 weeks

A. 105 hours of Ground School (Minimum and Maximum)

210 hours of flying

C. 1 hour of flight test

2.	Ground School:
	C.A.R.

C.A.R.	10	hours
Meteorology	15	hours
Aerial Navigation	20	hours
Radio	10	hours
Aircraft & engines	20	hours
Aircraft	30	hours
Total	105	hours

3. Flying:

Dual Instruction 40 hours (above includes 10 hours dual cross country Supervised solo 170 hours (above includes 20 hours solo cross country, in-cluding one flight of not less than 300 miles from point of departure) Test 1 hour 211 hours

Total

Cost: 4.

050.			
Dual Flight Instruction	40 hours @	10.80	\$ 432.00
Solo Flight Instruction	170 hours @	7.80	1,326.00
Flight Test	l hour @	7.80	7.80
Ground School	105 hours @	.70	73.50
Insurance (Minimum 3.00)	211 hours @	.10	21.10
Textbooks*			9.50
Total			\$1.869.90

*Books previously issued to a veteran not to be billed on this course. The above amount includes books for the Private Filots Course, plus Commercial Pilots Quiz Manual - 3.50, Pilots Log Book ⊕ .75, and Bulletin #2 ● .25.

Text:

Commercial Pilots Quiz Manual Publisher-Carlton L. Wheeler Pennyan, New York



Text:

Aeronautical Training for Commercial and Private Pilots. A Quiz System.

Publisher-Pan American Navigation Service 12021 Ventura Blvd. North Hollywood, Calif.



GROUND CURRICULUM COMMERCIAL PILOTS COURSE

1. Ground School:

A. Civil Air Regulations

At least ten classroom hours instruction to include:

- (1) Part Ol of Civil Air Regulations: Airworthiness certificates, transferability, certificate rules, logbooks, accidents, periodic inspection, registration, and transfer.
- (2) Part 20: Pilot Certificates.
- (3) Part 43: General Operation Rules
- (4) Part 60: Air Traffic Rules
- (5) Part 98: Definitions

B. Meteorology

At least fifteen classroom hours of instruction to include:

- (1) Recognition of weather.
- (2) Detailed study of cloud formations and accompanying weather.
- (3) Weather map analysis.
- (4) Amateur weather forecasting based on successive teletype sequences. This should include sufficient study of teletyped weather data to permit ready interpretation of teletype symbols.

B. Meteorology (Continued)

- (5) Knowledge of air masses, meaning of isobars and their relation to winds aloft.
- (6) Pressure areas, including fronts.
- (7) Fog: kinds of fog, when to expect fog, and dissipation thereof.
- (8) Icing: when to expect icing, kinds of icing, and how to avoid it.
- (9) Study of relationship of temperature dewpoint in forecasting.

C. Aerial Navigation

At least twenty classroom hours instruction to include:

- (1) Study of map and chart making, including various types of projections, with emphasis on the Lambert Conformal Projection.
- (2) Study of all forms of navigational methods, with explanation of each, including piloting, dead reckoning, radio, and instrument. Emphasis on map reading in piloting, and use of all instruments in dead reckoning.
- (3) Use of radio in navigation, including radio direction finder, radio range, and loop antenna. (See Radio; courses should not overlap, but should complement each other.)
- (4) Study of all navigational instruments, and their limitations.
- (5) Practical navigation problems: planning a flight, laying and measuring a course, solution of wind triangle with computer, estimating ETA, filing flight plan, check-points, fuel consumption, emergencies, unexpected headwinds, alternate landing field, and maximum endurance under economy cruising conditions.
- (6) Use of Civil Aeronautics Administration publications (BiWenoa, etc.)

D. Radio

At least ten classroom hours of instruction on this subject to include:

 Kinds of radio receivers, tuning, explanation of frequencies, effect of static and night effects.

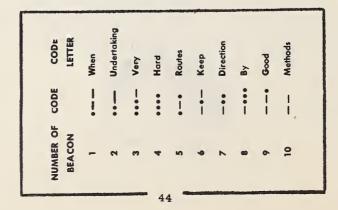


D. Radio (Continued)

- (2) Radio transmitters: how to use, voice procedures, Federal Communications Commission regulations, antennas and microphone technique.
- (3) Code: reception of signals of identification of radio ranges with immediate recognition of call letters.
- (4) Theory of loop antenna in homing and in establishing a radio fix.
- (5) Radio range and its use, including method of simple orientation procedure.
- (6) Use of airway Aids to Navigation: flight plans, radio markers, beacons, aeronautical lights, and airport traffic control.
- (7) Distress signals.

E. Aircraft Engines

- At least twenty hours instruction to include:
- (1) Principles of the internal combustion engine.
- (2) Fuels: octane rating, and detonation.
- (3) Construction and design: metals, tolerances, compression ratios, horsepower.
- (4) Classification and construction of engine components.
- (5) Lubrication and cooling systems.
- (6) Carburetion and ignition.
- (7) Propellers: fixed, adjustable, controllable, and constant speed, full-feathering.
- (8) Disassembly.
- (9) Inspection and maintenance.
- (10) Overhaul, repair, timing, and assembly.
- (11) Trouble shooting.
- (12) Logbooks and other records.
- (13) Practices: precautions in the operation of engines, such as starting, warm-up, idling, testing, and full throttle operation.



F. Aircraft

At least thirty hours on this subject to include:

- (1) Aerodynamics and theory of flight.
- (2) Factors of aircraft design, construction, and rigging.
- (3) Aircraft operation placards: necessity for limitations as to speed, load factors, rough air, gross load, and center of gravity limits; how to determine safe loadings, with C.G. limits.
- (4) Aircraft construction and materials used.
- (5) Repair and maintenance.
- (6) Logbooks and records.
- (7) Aircraft accessories.

Note* Any veteran who has received within one year of date of enrollment a CAA Form 578 indicating he has passed all subjects pertaining to the Commercial Course may be exempted from Ground School attendance. The veteran will not be charged for Ground School if exempted from attendance.

Certificate of Accomplishment

Upon completion of the instruction, an examination covering each general subject should be given. Students obtaining a passing grade may be given a certificate of completion, specifying the courses, credit hours given, and grades received. A grade of 70 points will be considered passing. For uniformity, the following form is suggested:

CERTIFICATE OF ACCOMPLISHMENT

This is	to certify that(name)		ted from the	
Commercial	Pilots Course curriculum of the		001)	
	(address)			
The record	of this graduate is as follows:			
	Courses satisfactorily completed Subject	Hours	Grade	
	-			
			-	
			-	
	I certify that t	the above	statements are	true
Date:		(Scho	001)	
Seal;	(Signature)		(Title)	



FLIGHT TRAINING FOR VETERANS Prepared & Approved by Montana Aeronautics Commission

Flight Controls...

MULTI-ENGINE CLASS RATING COURSE (Supplement B)

Veteran Requirements

To participate in this course, a veteran must have a current Commercial Pilots License, issued by the CAA.

MINIMUM & MAXIMUM REQUIREMENTS

In compliance with the requirements of the Veterans Administration's Bulletin No. 119, dated May 17, 1946, pertaining to Flight Training of Veterans, the following minimums and maximums have been established.

- The overall time for this course will be one week minimum or three weeks maximum.
- Students will be scheduled for a minimum of four hours or a maximum of ten hours flight time each week. The average will be 6 hours per week.
- 3. No classroom ground instruction will be given in this course. No charge will be made to the veteran for pre-flight and post-flight ground instruction which will be given by the Flight Instructor and will include one hour of ground instruction for each hour of flight time.
- 4. No student will be given more than two hours flight instruction in any one day.
- 5. Minimum and maximum time, within limits above established, will be determined by the Flight Instructor.
- 6. Students enrolled in this course may be scheduled to ride as observers while flight time is being given.

CURRICULUM OUTLINE

All flight time on this course will be devoted to actual flight maneuvers and emergency procedures necessary to familiarize the student pilot with the operation of multi-engine aircraft and will include all maneuvers and emergency procedures necessary to qualify the student to pass a flight test satisfactory to the CAA Inspector who gives the flight test.

The operator will be compensated for one additional hour of flight time for the flight examination, but in event the inspector deems it necessary to use more than one hour for the flight test, the operator will not be compensated for any additional flying time required.

FLIGHT EQUIPMENT

Flight equipment used on this course will be multi-engine aircraft with a minimum of 225 horsepower for each engine, and will include aircraft equipped with flaps, retractable landing gear, constant speed propellers, and normal complement of engine and flight instruments.

MULTI-ENGINE CLASS RATING COURSE (Supplement B) (Continued)

REQUIREMENTS

To receive State approval and authority to participate in this course, the Flight Operator will comply with the following requirements:

- The operator will have been approved by the State Aeronautics Commission for Flight Training of Veterans and will have met all the requirements as given in Bulletin No. 2 "Flight Training for Veterans".
- The operator will have flight equipment meeting the minimum require-2. ments as outlined for same in this course.
- The operator will maintain the flight equipment used on this course in a manner satisfactory to the CAA.
- The equipment used on this course will be available to veterans taking the multi-engine course at the time the veteran is scheduled to fly which will be shown on a scheduling chart posted in the flight operation's office of the operator.
- The instructor giving the veterans flight training on this course will be a Commercial Pilot with a current Flight Instructor's Rating and Multi-Engine Rating.

OUTLINE OF COURSE AND COST BREAKDOWN

A minimum and maximum of ten (10) hours flying time is required for this course.

21 hours - 3 weeks 1.

A. 10 hours of ground B. 10 hours of flying

C. 1 hour of Flight test

2. Cost:

Flight Instruction Flight Test Ground School Insurance (No Textbooks Total

made for same.

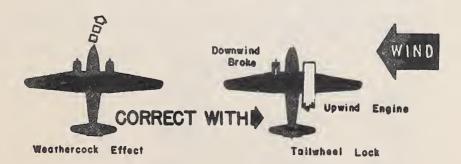
10 hours 45.00 1 hour • 45.00 10 hours (No Charge)

45.00 3.00

\$450.00

\$498.00 No textbooks are required for this course, therefore no charges

Insurance is not charged at the normal rate of 104 per hour as \$3.00 is the minimum required by an insurance agency.



FLIGHT TRAINING FOR VETERANS Prepared & Approved by Montana Aeronautics Commission

INSTRUMENT REFRESHER COURSE (Supplement C)

Veteran Requirements

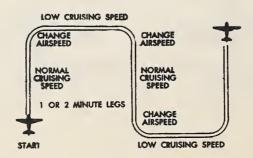
To participate in this course, a veteran must have the following qualifications, with certified proof of the following:

- 1. A current Commercial Pilots License.
- 2. Two hundred (200) hours solo Flying Time.
- 3. Twenty five (25) hours Link training time and twenty five (25) hours Instrument Time.
- 4. Evidence of having had a Military Instrument Card or CAA Instrument Card will be accepted as qualification in lieu of Item 3.

MINIMUM & MAXIMUM REQUIREMENTS

In compliance with the requirements of the Veterans Administration's Bulletin No. 119, dated May 17, 1946, pertaining to Flight Training of Veterans, the following minimums and maximums have been established.

- The overall time for this course will be three weeks minimum or six weeks maximum.
- Veterans will be scheduled for a minimum of two hours or a maximum of six hours of flight time each week - the average will be four hours per week.
- 3. Veterans will be scheduled for a minimum of one hour or a maximum of three hours link time each week. The average will be two hours each week until link time is completed.
- 4. Veterans will be scheduled for a minimum of five hours of class room instruction each week and a maximum of ten hours class room instruction each week. The average will be seven hours of class room instruction each week.
- No veteran will be given more than one hour of Instrument Flying and one hour of Link time in any one day.
- No veteran will be given more than two hours of class room instruction in any one day.
- Maximum and minimum time, within limits above established will be determined by the Instructor.



CURRICULUM OUTLINE

The veteran will be given Flight Instruction and Link Instruction on all maneuvers and procedures necessary to qualify the Veteran for a CAA Instrument Card.

The vetersn will be given class room instruction on all subjects necessary to qualify the veteran to pass the written test for an Instrument Rating by the CAA.

The ground curriculum will include all subjects as listed in Msnual 50 of the CAA, dated April 1, 1946.

FLIGHT EQUIPMENT

The sircraft used for Instrument Training will be of 100 H. P. or more and equipped with all instruments and other equipment as required by the CAA to train a pilot for an Instrument Card.

The aircraft with necessary crew, parachutes, 2 hours fuel and oil will have sufficient performance to work all standard procedures given by the CAA for the radio range used for instruction by the operator.

The aircraft will be equipped with a hood or Polaroid sheeting and will have either unobstructed vision for the instructor or carry sn observer on the blind side while instrument time is being given.

FLIGHT CURRICULUM

Flight Time Minimum (17) Hours; Meximum (20) Hours

Link Time Minimum (5) Hours; Maximum (5) Hours

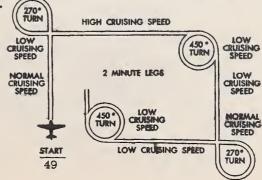
Instrument Flight Time may be substituted for Link Time at no additional cost to the veteran.

Personnel

All personnel giving instrument instruction in sircraft shall be possessed of a commercial pilot rating, rated for the sircraft to be used, a Flight Instructor rating, and a valid instrument rating. All personnel giving instrument instruction in Link trainers shall possess a ground instructor certificate with Link trainer rating when provisions have been completed for the issuance of such rating.

Curriculum

It is required that each hour of simulated flight be given prior to two hours of sctual flight and that the subject matter be in phase with the flight instruction.



Flight Curriculum (Con't)

- a. Climbs and climbing turns.
- b. Level flight.
- c. Timed turns.
- d. Steep turns (over 45 degrees).
- e. Stalls, and approaches to stalls.
- f. Recovery from abnormal attitudes.
- g. Slow flight and controlled descent.
- h. Radio range orientation, including at least three methods.
- 1. Beam bracketing and following.
- j. Cone identification.
- k. Airport and Airway Traffic Control, holding and emergency procedures.
- 1. Final approach.
- m. Missed appraoch.
- n. Practical speed, wind, drift problems.

GROUND CURRICULUM

Personnel

Persons employed as ground instructors must be certified in accordance with Part 50 of the Civil Air Regulations, or must possess valid instrument ratings.

Curriculum

Class room instruction will include thirty hours of training as follows:

a. Civil Air Regulations. At least two classroom hours of instruction to include:

Parts Ol, 20, 43, and 60 of CAR. In addition to parts stressed in the advanced ground school curriculum, special emphasis should be given to Part 60 and Instrument Flight Rules.

SKID SLIP
COORDINATE
TRIM
ANTICIPATE
A/S
ALTIMETER
BANK
50 CONSTANT

Ground School Requirements in "Note"
Par F-Commercial Pilots
Course-apply to this
course.

Ground Curriculum (Con't)

- b. Meteorology. At least five hours of instruction, of which one should be practical weather observation and the identification of weather conditions, to include:
 - Those subjects listed for advanced ground school rating. (1) and
 - Detailed study of conditions found under instrument flying conditions, with emphasis on icing conditions. (2)
 - (3) Advanced meteorology: weather maps, fronts, and analysis.
- Aircraft and theory of flight. At least three hours of classroom instruction to include:
 - Study of aircraft equipment: de-icing equipment, static eliminators, effect of ice on propeller and wing efficiency.
 - Power required under various load conditions, and change in stalling speeds therein.
- d. Navigation. At least five classroom hours instruction to include:
 - (1) Navigational problems under instrument conditions.
 - (2) Use of computer.
 - (3) Methods of obtaining fixes.
 - (4) Correction of drift to regain position.
 - (5) Alternate airport problems.
 - Radio orientation (at least three methods).
- Instruments, Radio, and Navigational Aids. At least five classroom hours instruction to include:
 - Review of all instruments, and errors that may be encountered under instrument conditions.
 - (2) Study of radio aids to instrument flight, in aircraft.
 - (3) Tuning radio, and use of volume control.
 - (4) Description of various radio aids, furnished by the Department of Commerce.





OUTLINE OF COURSE AND COST BREAKDOWN

A minimum of (17) hours flight time and a maximum of (20) hours flight time will be required.

A minimum and maximum of (5) hours Link time will be required.

A minimum and maximum of (30) hours Ground School will be required.

1. 56 hours - 6 weeks
A. 20 hours Flight
B. 5 hours Link
C. 30 hours Ground
D. 1 hour Flight Test
56 hours - Total

2.	Cost: Flight Instruction Flight Test Link Instruction Ground School Insurance (3.00 minimum)	1 hour	20.00 20.00 10.00	6 6 6	\$400.00 20.00 50.00 21.00
	Insurance (3.00 minimum) Textbooks and charts	Total			3.00 3.50 \$497.50

Note--

(1) It is recommended that "Basic Instrument Flight", a CAA publication be used as a text for veterans taking the Instrument Course.

It is recommended that "Basic Instrument Flight Instructor's Syllabus" be used by Instrument Instructors in teaching the Instrument Course.

Information on texts may be obtained from the Office of Aviation Training, CAA Dept. of Commerce, Washington D.C.

- (2) Instrument textbooks and charts will be procured where ever obtainable and only actual cost of books and charts will be charged by operator. Total cost will not exceed \$3.50.
- (3) Insurance is not charged at the normal raté of 10¢ per hour as \$3.00 in the minimum required by an Insurance Agency.



FLIGHT AND GROUND SCHOOL RECORD

	icate No	(last)	(fir	st)		(m	iddle)		City	and S	State	
me	Address								Cou	rse		
LESSON No.	AIRPLANE MAKE OR LINK	HORSEPOWER	N. C. NUMBER	МОМТН	DAY	GROUND	DUAL	SOLO	LINK	AIRPLANE INSTRUMENT INSTRUCTION	OVERALL FLIGHT GRADE	(TRAINEE'S SIGNATURE FOR DAILY INSTRUCTIONS RECEIVED)
1												
2												
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4				_								
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6												
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	BR	HEET TOTAL ROUGHT FO	DRWARD									
	l her	eby certi	fy that the a	bave by 1	instr me.	uctian ho	ıs been		I	hereby g	certify iven ta t	that above instruction has been he above named trainee.
			Troinge's									s Signature Number



